

# THE STATE OF THE START-UP



2014: Growing a  
Stronger Maryland



**TEDCO**  
LEADING INNOVATION TO MARKET



## A LETTER FROM THE TOP

The great industrialist J.P. Morgan is credited with saying, "Go as far as you can see; when you get there, you'll be able to see farther." At TEDCO, we try to embody the same sense of striving for constant improvement. As the engine in the country's top-ranked innovation and entrepreneurship economy, we are proud of our successes, but far from satisfied.

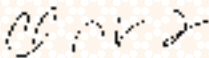
This year saw us build on our past achievements by innovating like the companies we serve. Along with new programs targeting Veteran-owned start-ups and executive leadership development, we continued the work of the Maryland Innovation Initiative and made important strides in our goal to build a sustainable TEDCO.

Our annual State of the Start-Up report provides the data. We review the economic impact on Maryland, jobs created, follow-on investments made and connections established. We celebrate the success of some of the companies in which we have invested. We do so to create the transparency and accountability that is necessary to maintain the trust of those who invest in us. If you are reading this, you are likely among that group and we are grateful.

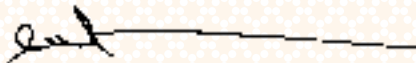
What we hope is not lost in the numbers is the impact our work has on the lives of real people. Each of the 2,835 jobs that exist in Maryland as a result of TEDCO investments represents a family. Each job and company that exists because of TEDCO reflects aspirations voiced, dreams realized, and most importantly, problems creatively solved. By empowering the vision of innovators, we are literally changing the world.

We are honored to lead TEDCO, an organization built with the guidance of our volunteer board of directors and the dedication of our talented staff. As we move forward towards new horizons, we remain strategically focused on serving the needs of Maryland's entrepreneurs and growing its innovation economy. With your support, we look forward to continuing to share new visions for Maryland's bright future.

Sincerely,



Charles J. "Chuck" Morton, Jr.  
Chair  
TEDCO Board of Directors

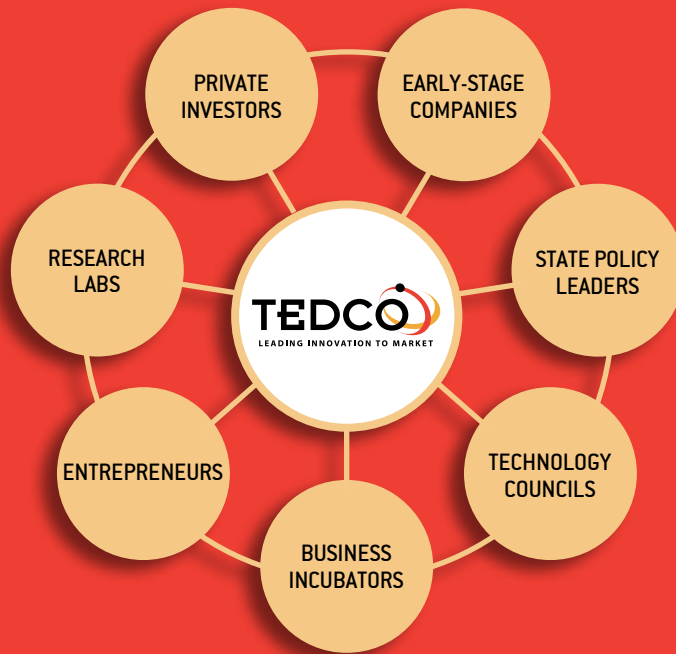


Rob Rosenbaum  
President and Executive Director  
TEDCO

## OUR MISSION

TEDCO was created by the Maryland State Legislature in 1998 to facilitate the transfer and commercialization of technology from Maryland's research universities and federal labs into the marketplace, and to assist in the creation and growth of technology-based businesses in all regions of the State. Today, TEDCO is more than an early-stage funding resource—it is the hub of Maryland's entrepreneurial network, where start-ups find mentors, organizational assistance, facilities for daily operations and a roadmap for success. TEDCO does it all:

- Establishes and manages programs that support innovation
- Establishes and manages programs that promote entrepreneurship
- Provides funding for technology transfer development
- Provides funding for business formation, growth and expansion



## OUR VISION FOR THE FUTURE

TEDCO is a public corporation that serves as Maryland's leading source for entrepreneurial business assistance and seed funding for the development of start-up companies in our innovation economy. We believe that Maryland will be internationally recognized as a premier location for innovation, entrepreneurship and company formation. This includes multiple innovation clusters, a large and established entrepreneurial community and a thriving venture capital network.

## TEDCO PORTFOLIO SUCCESS

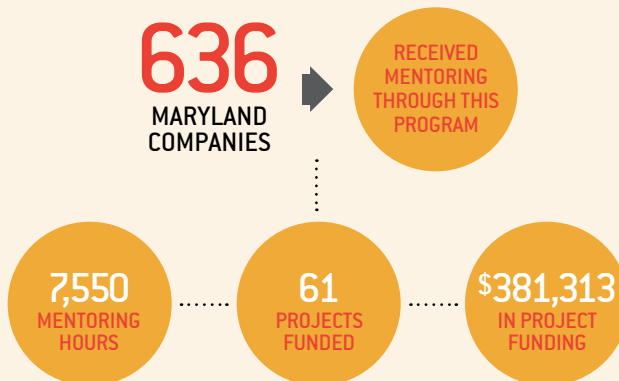
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- **\$26 million**  
IN ENTREPRENEURIAL INNOVATION
- **More than 290**  
THRIVING PORTFOLIO COMPANIES
- **\$670 million**  
IN FOLLOW-ON FUNDING
- **\$122 million**  
IN RESEARCH INNOVATION
- **More than 565**  
RESEARCH PROJECTS FUNDED

## RBI<sup>2</sup> SUCCESS

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The Rural Business Innovation Initiative (RBI<sup>2</sup>) assists start-up and small businesses in the rural areas of Maryland to advance the company to a higher level of success. The program offers professional ongoing mentoring and targeted projects to help companies succeed at no cost to the company. **Since 2010—**



# 2014 / THE YEAR IN REVIEW

For sixteen years, TEDCO has played a critical and effective role in the innovation and entrepreneurship communities in Maryland. 2014 saw the most active year in TEDCO's history, as we were able to award more grants and make more investments than any other year. TEDCO was fortunate to secure additional State funding for the Cybersecurity Investment Fund and the Rural Business Innovation Initiative (RBI<sup>2</sup>). Attendance at our events hit record highs as TEDCO continued to offer the innovation community impactful programming and content, and our counsel on all things entrepreneurial was continually solicited from community stakeholders.

This success is directly attributable to a singular focus on our mission to drive innovation and entrepreneurship in Maryland, and the execution of our mission to deliver exceptional programs. TEDCO is also fortunate to have an extraordinary staff who, along with the support of the Governor and the State legislature, allow us to continue to earn the respect of our stakeholders. Notable highlights of the past year include:

## ● ENTREPRENEURSHIP

Providing Maryland entrepreneurs with funding, networking and mentoring has always been the core of TEDCO's mission. This year, TEDCO augmented these efforts with the following statewide programs and resources:

### **Cybersecurity Investment Fund (CIF)**

TEDCO launched CIF in August to provide up to \$100,000 in support of projects that advance cybersecurity technology toward commercialization. CIF enables companies to achieve early technical milestones critical to moving cybersecurity technologies further along the commercialization pathway and securing follow-on investments.

### **Executive Exchange (EE)**

Launched in October, the EE program is a multi-tiered initiative designed to cut across all TEDCO funding programs by offering supplemental stage-appropriate assistance to portfolio company entrepreneurs. One program element loans executives to start-up companies during an inflection point. TEDCO hopes to impact as many as 80 start-up ventures with this program in its first year.

### **Veterans' Opportunity Fund (VOF)**

TEDCO Capital Partners' VOF is the first venture capital fund formed to invest in businesses that are started, owned and/or managed by veterans of the United States Armed Forces. In June, VOF made its first investment in RedOwl Analytics, a company that applies rigorous analytics to corporate data for proactive risk oversight.

### **The 2014 Entrepreneur Expo**

This unique educational and networking event attracted more than 600 participants in its fourth year. The event brought together aspiring and seasoned entrepreneurs to celebrate entrepreneurship and highlight the assets Maryland offers businesses.

## ● GOVERNMENT RELATIONS

Interaction with State legislators increased significantly this year, with the highlight being a showcase of TEDCO companies in the House office building that was attended by more than 40 legislators. This showcase was done at the request of the House of Delegates Business Climate Workgroup. TEDCO continued to be an active participant on the Maryland Cyber Commission, co-chaired by Senator Catherine Pugh and Delegate Susan Lee. TEDCO's budget also benefited from the most recent legislative session with an increase of \$1.5 million. This funding consisted of \$500,000 for the Rural Business Innovation Initiative (RBI<sup>2</sup>) program and \$1 million for the CIF program.

At the federal level, our patient but persistent effort has begun to pay dividends. The ATIP foundation successfully launched two projects with USDA. The first, Resilient Economic Agricultural Practices (REAP), is being led by another ATIP member with TEDCO playing a supporting role. The second project, Branded Food Products Database for Public Health, is being co-led by TEDCO. We continued to support State Science & Technology Institute's (SSTI) advocacy efforts through visits to congressional offices and letters to Maryland's representatives supporting specific bills.

## ● SUSTAINABLE TEDCO

The strides we've made in structuring the organization pursuant to our goal of fiscal sustainability expanded further this year. Revenues were generated through royalties from portfolio companies and grantees, the conversion of Technology Commercialization Fund (TCF) investments into traditional convertible notes with an eight percent coupon, fees from a family of focused investment funds collectively called TEDCO Capital Partners, and non-Maryland grant income.

● Overall, TEDCO saw record highs of applications submitted and deals approved in FY 2014, having reviewed 373 applications, approved 121 projects and awarded \$17.6 million to Maryland entrepreneurs and innovators. We are connecting entrepreneurs in Maryland with the resources they need to thrive and innovate on an unprecedented level.

## MARYLAND INNOVATION INITIATIVE SUCCESS

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Since it began accepting applications in November 2012, the Maryland Innovation Initiative (MII) has been accelerating commercialization and technology transfer from university labs to start-up companies. The MII program was created as a partnership between the State of Maryland and five Maryland academic research institutions: University of Maryland, College Park; University of Maryland, Baltimore County; University of Maryland, Baltimore; Johns Hopkins University; and Morgan State University. In FY 2014, the MII program **awarded a total of \$6,450,260** to projects along three distinct phases of the path to commercialization.

### PHASE 1: Proof of Concept

**53 AWARDS**

**\$5,537,018 AWARDED**

### PHASE 2: Business Case

**6 AWARDS**

**\$89,676 AWARDED**

### PHASE 3: Business Creation

**8 AWARDS**

**\$823,566 AWARDED**

NUMBER OF  
START-UP COMPANIES  
CREATED BY MII:



**22**



# CLEAR GUIDE MEDICAL— A TEDCO SUCCESS STORY

Next time you have to visit your physician for an injection or biopsy you might notice something on the ultrasound screen you haven't seen before—a needle. This revolutionary technology was developed by Clear Guide Medical, a privately-held company based in Baltimore that specializes in accurate and real-time needle guidance for ultrasound-based medical interventions that can be used in various medical settings, from needle biopsy to emergency medicine. Based on advances in computer vision research, the company's product, the Clear Guide ONE, is a complete navigation system that allows physicians to visualize the needle path on-screen before entering the patient, ensuring increased accuracy in placement. The technology is cost-effective and physicians and staff can be easily trained to use it.

In 2009, Dr. Emad Boctor of Johns Hopkins University's Medical Ultrasound Imaging and Interventions Collaboration Lab teamed with Dr. Philipp Stolka to develop a technology that would change medical image guidance specifically for ultrasounds. Unlike x-rays, ultrasound does not create radiation exposure that can be harmful to patients. Dr. Boctor and Dr. Stolka also wanted the technology to be less intrusive than existing products.

With assistance from TEDCO's University Technology Development Fund (now named the Technology Validation Program), Dr. Boctor and Dr. Stolka were able to test the feasibility of their technology and jumpstarted their research toward a laboratory prototype. In 2010, with the success of the prototype, Dr. Boctor and Dr. Stolka used the funding to help start Clear Guide Medical, a Johns Hopkins spin-out, with two other Hopkins faculty co-founders, Dr. Gregory Hager and Dr. Dorothee Heisenberg. Dr. Boctor and Dr. Hager now serve as scientific advisors to the company, while Dr. Heisenberg serves as CEO, and Dr. Stolka serves as CTO. In 2013, Clear Guide Medical received additional assistance through TEDCO's Technology Commercialization Fund, and used this funding to hire another full-time staff member to further develop their technology.

Today, Clear Guide Medical—in addition to the Clear Guide ONE—produces the Clear Guide EDU, which is an ultrasound trainer with integrated imaging, tracking and guidance, and the Clear Guide VET, which veterinarians can use in their practices. Clear Guide Medical recently received FDA 510(k) clearance for the Clear Guide ONE, which allows the company to market its product to clinical professionals. Clear Guide



Medical is also partnering with clinicians at the Johns Hopkins, University of Maryland and Yale Schools of Medicine and other medical centers to further improve the technology, and is offering the Clear Guide ONE through its Early Adopter Program to interested parties ahead of the global rollout of its clinical, veterinary and educational products in early 2015.

“Clear Guide Medical would not have taken off without assistance from TEDCO,” said Dr. Dorothee Heisenberg. “TEDCO was especially instrumental in the early stages, from providing funding to developing our technology in the lab to helping us staff our company with experienced engineers to make our clinical products easy to use for physicians. We are grateful for TEDCO and for the opportunities it provided to help us succeed, such as enabling additional funding from other sources.”

Clear Guide Medical won the Maryland Incubator Company of the Year Award in the Life Sciences/Medical Device category in 2013 and was also a finalist in TEDCO’s Innovation, Corporate Excellence and Entrepreneurship (ICE) Awards in 2012 and 2013.



*Clear Guide Medical team receiving FDA 510(k) clearance*



*Clear Guide ONE system*



# WHO WE ARE

## BOARD

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**Bill Anderson VICE CHAIR**  
Oculus Labs

**Eric G. Orlinsky TREASURER**  
Saul Ewing, LLP

**Claire Fraser, Ph.D. SECRETARY**  
Institute of Genome Sciences,  
UM School of Medicine

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**Paula Jagemann**  
Someone With, LLC

**Konstantina Katcheves**  
Lonza Walkersville, Inc.

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Johns Hopkins University

**John H. "Jack" Lewin**  
M&T Bank

**C. Warren Mullins**  
Battelle (Retired)

**Dominick Murray**  
Maryland Department of Business  
and Economic Development

**Amita Shukla**  
Vitamita, LLC

**Jay Steinmetz**  
Barcoding, Inc.

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**John M. Wasilisin**  
Executive Vice President and  
Chief Operating Officer

**Stephen P. Auvil**  
Senior Vice President, Technology Transfer  
and Commercialization

**Dan Gincel**  
Executive Director, Maryland Stem  
Cell Research Fund and Vice President  
of University Partnerships

**Henry Ahn**  
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Technology Funding Programs

**Moss Amer**  
Analyst

**Timoth Copney**  
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**Silvia Goncalves**  
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Director, Federal Lab Programs

**Ann Pulley**  
Finance Manager

**Linda Saffer**  
Program Manager, University Programs

**Sabrina Spinner**  
Administrative Coordinator,  
Maryland Stem Cell Research Fund

## OUR PROGRAMS



Technology Commercialization Fund



Maryland Innovation Initiative



Rural Business Innovation Initiative



Maryland Entrepreneur Resource List



Federal Technology Transfer Initiatives



Agricultural Technology Innovation Partnership



Maryland Stem Cell Research Fund



Capital for Proven Leaders



Cybersecurity Investment Fund



Executive Exchange



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